# Rocky Flats Environmental Technology Site

# RECONNISSANANCE LEVEL CHARACTERIZATION CHEMICAL CHARACTERIZATION PLAN (PACKAGE)

## Group 11 CLOSURE PROJECT

(Buildings 827, 850, 890, 881C, 881G, 881H, 883C, C865, 881 Tunnel and T690N)

## REVISION 0

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# CHEMICAL CHARACTERIZATION PLAN (PACKAGE)

**Group 11 (Buildings 827, 850, 890, 881C, 881G, 881H, 883C, C865, 881 Tunnel and T690N)**

* This characterization package was prepared in accordance with MAN-077-DDCP, D&D Characterization Protocols, and MAN-127-PDSP, Pre-Demolition Survey Plan for D&D Facilities
* RLCP and PDSP Data Quality Objectives were used to develop this characterization package

## Instructions:

1 Verify characterization activities are on the Plan-of-the-Day (POD)
2 Perform a Pre-Evolution Brief and/or Job Task Brief in accordance with the Site Conduct of Operations Manual
3 Verify personnel have appropriate training for the applicable tasks they will be performing
4 Comply with RWP requirements, if applicable
5 Comply with JHA and facility PPE requirements, as applicable
6 Inform the Facility Manager, or designee, prior to starting characterization activities
7 Follow applicable characterization and sampling procedures
8 Notify Wackenhut Security (x2444) and the Shift Supervisor (x2914), and verify appropriate safety precautions/requirements are followed prior to accessing facility roofs
9 Coordination with the Environmental Restoration Program organization will be required to further characterize underneath facility foundations and slabs prior to removal
10 Collect and maintain all characterization paperwork in the Project File(s), and all electronic data in the appropriate D&D RISS subdirectory



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| ASBESTOS | | |
|---|---|---|
| **Sample Location** | **Estimated Number of Samples** | **Sample location and justification/rational** |
| 827 | 6 | An asbestos inspection has not been performed Since this structure may be sold to the general public, a comprehensive, invasive inspection will be performed to determine the presence of friable building materials Suspect friable materials such as drywall & joint compound, drop ceiling tiles, thermal systems insulation, and surfacing materials will be sampled Suspect non-friable materials will be noted in the RLCR, but not sampled |
| 850 | 35 | An asbestos inspection has not been performed As a result, a comprehensive, invasive inspection will be performed to determine the presence of friable and non-friable building materials The square and lineal footages of homogeneous building materials will determine the exact number of bulk samples Building 850 has approximately 39,800 square feet of floor space |
| 890 | 0 | In Building 890, no building materials suspected of containing asbestos were located This building is constructed of poured reinforced concrete foundation, walls, and floor |
| 881C | 6 | Asbestos inspection has not been performed As a result, a comprehensive, invasive inspection will be performed to determine the presence of friable and non-friable building materials Approximate square and lineal footage of homogeneous building materials will determine the exact number of bulk samples |
| 881G | 6 | An asbestos inspection has not been performed As a result, a comprehensive, invasive inspection will be performed to determine the presence of friable and non-friable building materials Approximate square and lineal footage of homogeneous building materials will determine the exact number of bulk samples |
| 881H | 6 | An asbestos inspection has not been performed As a result, a comprehensive, invasive inspection will be performed to determine the presence of friable and non-friable building materials Approximate square and lineal footage of homogeneous building materials will determine the exact number of bulk samples |
| 883C | 6 | An asbestos inspection has not been performed As a result, a comprehensive, invasive inspection will be performed to determine the presence of friable and non-friable building materials Approximate square and lineal footage of homogeneous building materials will determine the exact number of bulk samples |
| C865 | 0 | In Building C865, no building materials suspected of containing asbestos were located This building is a former Cooling Tower, and the asbestos containing, corrugated transite panels have been removed |
| 881 Tunnel | 9 | An asbestos inspection has not been performed As a result, a comprehensive, invasive inspection will be performed to determine the presence of friable and non-friable building materials Approximate square and lineal footage of homogeneous building materials will determine the exact number of bulk samples |



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**Asbestos – Continued**

| | | |
|---|---|---|
| T690N | 6 | An asbestos inspection has not been performed Since this structure may be sold to the general public, a comprehensive, invasive inspection will be performed to determine the presence of friable building materials Suspect friable materials such as drywall & joint compound, drop ceiling tiles, thermal systems insulation, and surfacing materials will be sampled Suspect non-friable materials will be noted in the RLCR, but not sampled Approximate square and lineal footage of homogeneous materials will determine the number of bulk samples |
| **Total Samples** | 80 | The exact sample numbers and locations cannot be determined until a comprehensive, invasive inspection is performed in accordance with 40 CFR Part 763, Subpart E Sample locations will be specified on sample map(s) during characterization efforts Samples will be obtained in accordance with PRO-653-ACPR, Asbestos Characterization Procedure and 40 CFR 763 |

| **BERYLLIUM** | | |
|---|---|---|
| **Sample Location** | **Number of Samples (smears)** | **Sample location and justification/rational** |
| 827 | 5 | Based on the Historical Site Assessment Report (HSAR) and Interview Checklists, there is not adequate historical and process knowledge to conclude that beryllium was not used or stored in this building Therefore, biased sampling will be conducted |
| 850 | 20 | Based on the HSAR and Interview Checklists, there is not adequate historical and process knowledge to conclude that beryllium was not used or stored in this building Therefore, biased sampling will be performed |
| 890 | 5 | Based on the HSAR and Interview Checklists, there is not adequate historical and process knowledge to conclude that beryllium was not used or stored in this building Therefore, biased sampling will be performed |
| 881C | 0 | Based upon process knowledge, it is reasonable to conclude that beryllium was not used or stored in a louvered, closed-loop Cooling Tower |
| 881G | 5 | Based on the HSAR and Interview Checklists, there is not adequate historical and process knowledge to conclude that beryllium was not used or stored in this building Therefore, biased sampling will be performed |
| 881H | 5 | Based on the HSAR and Interview Checklists, there is not adequate historical and process knowledge to conclude that beryllium was not used or stored in this building Therefore, biased sampling will be performed |
| 883C | 0 | Based upon process knowledge, it is reasonable to conclude that beryllium was not used or stored in a louvered, closed-loop Cooling Tower |
| C865 | 0 | Based upon process knowledge, it is reasonable to conclude that beryllium was not used or stored in a louvered, closed-loop Cooling Tower |
| 881 Tunnel | 13 Random 10 Biased | Based on the HSAR and Interview Checklists, there is adequate historical and process knowledge to conclude that beryllium was used, stored in, or transported through this tunnel between buildings 881 & 883 The tunnel is approximately 1,536 square feet. Therefore, 13 random and 10 biased beryllium smears will be obtained |
| T690N | 5 | Based on the HSAR and Interview Checklists, there is not adequate historical and process knowledge to conclude that beryllium was not used or stored in this building Therefore, biased sampling will be performed |
| **Total Samples** | 68 | Samples will be obtained at locations specified on sample map(s) in accordance with PRO-536-BCPR, Beryllium Characterization Procedure Biased sample locations will correspond with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition Random sample locations will be computer generated |



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| LEAD – for Industrial Hygiene Purposes | | |
|---|---|---|
| **Sample Location** | **Number of Samples** | **Sample location and justification/rational** |
| Group 11 Cluster, all locations | 0 | Lead sampling is not required in the Group 11 Cluster Based on the HSAR, Interview Checklists, and facility walkdowns, the only potential for a lead hazard would be in the paint For example, no lead-containing solutions were processed in the building However, all paint will remain a part of the infrastructure during demolition and/or disposal, and therefore does not require sampling per Environmental Waste Compliance Guidance No 27, Lead Based Paint (LBP) and LBP Debris Disposal Sampling for lead for IH requirements will be at the discretion of the demolition contractor |

| RCRA/CERCLA CONSTITIUENTS | | |
|---|---|---|
| | **Sample Location** | |
| 881G<br>881H<br>890<br>T690N<br>850<br>881 Tunnel | 0 | Based on the HSAR, Interview Checklists, and facility walkdowns, no process activities resulting in a release of RCRA constituents or CERCLA hazardous substances occurred in this building Therefore, sampling is not required |
| 881C (3)<br>883C | 0 | The three 881C Cooling Towers are still in use and potential sample locations will remain inaccessible until partial demolition takes place Once partial demolition takes place, sludge, if present, will be sampled and analyzed for RCRA metals Sludge sampling is for waste disposal purposes only, and will not affect the facility typing If metals analysis data results are above the regulatory release levels, then the sludge will be disposed of as hazardous waste If the Cooling Towers have concrete basins, and the sludge is above the regulatory release levels, the concrete base will be sampled during demolition for waste disposal purposes |
| 827 | 1 and 1 duplicate | One core sample and one duplicate sample will be taken in the middle of the reddened area in the southeast corner of the small room to the east where the battery racks are kept A large amount of reddish dust indicates a possible battery leak under the southeast rack, this area will be sampled for lead which may have leached from the battery |
| C-865 | 1 and 1 duplicate | The C-865 Cooling Tower has a concrete base, which has filled with rainwater The water will be sampled and disposed of under the Site Incidental Waters Procedure during D&D Any sludge, if present, will be sampled and analyzed for RCRA metals Sludge sampling is for waste disposal purposes only, and will not affect the facility typing If metals analysis data results are above the regulatory release levels, then the sludge will be disposed of as hazardous waste If the sludge is above the regulatory release levels, the concrete base will be sampled during demolition for waste disposal purposes |
| **Total Samples** | 2, plus 2 duplicates | Samples will be obtained at locations specified on sample map(s) in accordance with PRO-488-BLCR, Bulk Solids and Liquids Characterization Procedure B827 samples shall be analyzed for lead, C-865 samples shall be analyzed for RCRA metals contained in 40 CFR 261 24, Table 1 |

- These buildings contain components that may need to be managed as Regulated Waste during D&D activities, including mercury thermostats, fluorescent light bulbs, mercury vapor light bulbs, circuit boards, and lead-acid batteries Care will need to be taken to ensure these wastes are managed properly during demolition or sale



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| PCBs | | |
|---|---|---|
| **Sample Location** | **Number of Samples** | **Sample location and justification/rational** |
| 827 | 1, plus 1 duplicate | There is visible liquid pooling under the diesel generator due to leaky seals This liquid will be sampled for PCBs If the PCB liquid analysis results are above the regulatory release limits, core sampling will be required Core sampling, if required, should be 2" diameter and 2" depth (deeper samples will be taken in the unlikely event that contamination appears to have migrated farther than 2" into the slab) |
| 890 | 1, plus 1 duplicate | This building was used to house pumps for the 881C Cooling Water Towers There is a stain on the floor 10-12" in diameter approximately 4 feet north of the sump pit This stain will be wipe sampled for PCBs If the PCB wipe analysis results are above the regulatory release limits, core sampling will be required Core sampling, if required, should be 2" diameter and 2" depth (deeper samples will be taken in the unlikely event that contamination appears to have migrated farther than 2" into the slab) |
| 850<br>881C<br>881G<br>881H<br>883C<br>C865<br>881 Tunnel<br>T690N | 0 | Based on the HSAR, Interview Checklists, and facility walkdowns, no process activities resulting in a release of PCBs occurred in this building Therefore, sampling is not required |
| **Total Samples** | 2, plus 2 duplicates | Samples will be obtained at locations specified on sample map(s) in accordance with PRO-488-BLCR, Bulk Solids and Liquids Characterization Procedure Samples shall be analyzed for PCB characteristic contaminants |

- These buildings contain materials such as PCB ballasts that may need to be managed as TSCA Regulated Waste during D&D activities, such as light ballasts Care will need to be taken to ensure these wastes are managed properly



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